



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 2 — CHART INFORMATION

SECTOR 2

CAPE SAINT PAUL TO CAPE FORMOSO

Plan.—This sector describes the African coast between Cape Saint Paul and Cape Formoso, 325 miles ESE. The descriptive sequence is from W to E.

General Remarks

2.1 The coast of the Bight of Benin, lying between Cape Saint Paul and Cape Formoso, forms a monotonous beach so uniformly low and flat that not a single inland landmark is visible from offshore. The elevation of the ground seldom exceeds 3m and even the most prominent clumps of trees do not rise to heights of more than 20m. This stretch of coast includes parts of Ghana, Togo, Benin (formerly Dahomey), and Nigeria.

The W shore of the bight is covered with jungle and groups of trees interspersed with numerous villages and detached huts. Near Keta, 5 miles N of Cape Saint Paul, the trees are high and form large and distinct groups. The trees then extend 45 miles ENE in a continuous line to Agoue, where they terminate except for a few dotted here and there. Throughout the long extent of coast forming the head of the bight, Lagos Harbor is the only permanent opening or outfall for the water in the lagoons. However, several partial breaks in the sandhills, through which the lagoons pour the overflow, form during the wet season (April to October). The SE shore of the bight has a distinctive character. It is no longer fringed by a bright sandy beach, but has a continuous dense mass of trees growing on a muddy foreshore. There are very few landmarks along this part of the shore, except for several rivers and creeks which form a delta.

Winds—Weather.—The land is frequently obscured by haze, locally known as "The Smokes," which in the dry season (November to May) prevails throughout the entire Bight of Benin. On the windward or W side of the bight, this haze is not so strong and the bright sandy beach, with its fringe of surf, can usually be distinguished. The haze generally lasts for about 3 hours, beginning after sunrise, and is then replaced by a sea breeze.

Tides—Currents.—The beach has a tidal range of about 1.5m, but the surf is so heavy and incessant along the shore and the swell is so constant that actual measurements in the W part of the bight are very difficult. Along the SE side of the bight and in the vicinity of the river bars, where the water is smooth, tidal measurements have been established by the authorities and are used by local boats.

The influence of the tidal currents generally extends up to between 4 and 9 miles off the mouths of the rivers. The ebb current is increased by the discharge of fresh water and attains a rate of about 3 knots at the river mouths. The rate of the flood current is generally much less than that of the ebb. At half ebb, a volume of turbid and brownish water is discharged from the rivers and usually carries floating uprooted trees, bushes, and clumps of leaves. This discharge discolors the sea with a brown

scum for several miles. During the rainy season, the discoloration may extend up to 10 miles from the coast.

Regulations.—It is reported that all Nigerian ports are closed from 2000 to 0600 hours. In addition, vessels are prohibited from transiting or anchoring in the approaches to the ports during this period unless they have been previously cleared for entry and are registered with the local authorities. Due to the complicated nature of the regulations, vessels are advised to communicate with their local agents well in advance in order to ensure compliance.

Two months prior to arrival in Nigerian waters, agents must register vessels with the Nigerian Ports Authority (NPA) in order to obtain a Ship Entry Notice (SEN). This does not apply to vessels carrying petroleum products in bulk or in ballast. Vessels cannot enter the territorial waters of Nigeria without a SEN.

Anchorage.—The bight affords excellent holding ground out to a depth of about 30m. The inshore bottom is composed throughout of stiff black mud and broken shells covered by sand. Outside the 30m curve, the bottom is generally composed of olive-colored mud, broken shells, and decayed vegetable matter. Anchoring anywhere within the bight must be prompted by necessity and not by comfort, as vessels lie more or less across the swell and usually experience unceasing heavy rolling, according to the strength of the current. In the W part of the bight, particularly toward Cape Saint Paul, the swell is not so heavy. Along the SE shore of the bight, vessels should anchor, in depths of 18 to 22m, about 9 miles offshore in order to avoid shoal water and because of the heavy ground swell that is perpetually rolling in.

Caution.—In the inland waters of Nigeria, rafts formed of timber and oil drums may be encountered. These rafts usually show a red light at each end at night.

Although the surf may occasionally appear practicable, landing should not be attempted anywhere between Cape Saint Paul and the end of the sandy beach located 60 miles E of Lagos, except in local canoes and surf boats.

Several oil rigs and platforms have occasionally been encountered off the coast of Benin.

Vessels are cautioned that security off the West African coast and within some ports is a serious problem. In recent years (1986-2001), attacks by pirates and thieves have been reported. These have generally taken place at the outer anchorages, but some have occurred while berthed alongside.

Cape Saint Paul to Lome

2.2 Cape Saint Paul (5°50'N., 0°58'E.) is formed by a prominent and rounded section of the coast, but its exact position is difficult to define. The cape is usually considered to be located near the village of Woe. A main light is shown from a pile structure standing on this cape. A stranded wreck lies close to the shore 1.5 miles SW of the light.

The coast between Cape Saint Paul and the town of Keta, 6 miles N, is formed by a narrow ridge or barrier of sand which separates the sea from Keta Lagoon. The latter town, with a fort, is conspicuous from seaward. A large square bungalow, with a flagstaff at its W side, is situated close to the fort. Anchorage may be taken, in a depth of 9m, about 0.6 mile SE of the town. Rollers may come in heavily and without warning at this anchorage. Anchorage may also be taken, in a depth of 18m, about 1.8 miles SE of the fort. Vessels usually lie head to the swell at this anchorage because of the trend of the coast.

Between Keta and Lome, 18 miles NE, the coast is low and flat, with an occasional large clump of palms. It is fronted by a yellow, sandy beach on which the surf breaks heavily. Denu stands 15 miles NE of Keta. This village can be identified by a conspicuous house, situated near the beach, and some factories, standing about 0.5 mile NE of it. Afloao, another village, is situated 0.4 mile NE of Denu. A beacon is situated 0.3 mile E of this village and indicates the border between Ghana and Togo.

Lome (6°08'N., 1°17'E.)

World Port Index No. 46090

2.3 Lome lies 23 miles NE of Cape Saint Paul and is the only port of Togo. It is also a port of entry for Niger and Burkina Fasso. The harbor, which is formed by breakwaters, lies 5 miles E of the city.

Winds—Weather.—During January and February, calm N winds are to be expected, but at other times W to SW winds predominate. The rainy season is from April to July and the dry season is from February to March.

Tides—Currents.—The tide rises about 1.5m at springs and 1.2m at neaps.

Depths—Limitations.—The main breakwater, 0.5 mile long, extends ESE and protects the harbor from the S. The E breakwater, about 0.5 mile long, extends S. The harbor entrance is dredged to a depth of 14.5m.

There are two jetties within the harbor. They provide 1,100m of berthage, with dredged depths of 11 to 12m alongside.

A bulk berth is situated near the middle of the inner side of the E breakwater. It has a dredged depth of 12m alongside and can accommodate vessels of up to 210m in length and 11.5m draft.

A tanker berth is situated close to the head of the E breakwater. It has a depth of 14m alongside and can accommodate vessels of up to 270m in length and 13.5m draft.

Aspect.—A prominent four-storied hotel stands in the W part of the city and a conspicuous high-rise hotel is situated 0.5 mile NW of it.

A main light (Lome) is shown from a structure surmounting a prominent gray water tower which stands 2.2 miles W of the root of the main breakwater. Another main light (Baguida) is shown from a pylon standing 2.4 miles NE of the head of the main breakwater.

The main breakwater is illuminated along its whole length by lights, situated 46m apart. Lighted buoys are moored 0.4 mile and 2.4 miles ESE of the head of the main breakwater.

A prominent radio mast stands 2.7 miles NW of the root of the main breakwater. Several prominent warehouses stand close NE of the root of the main breakwater.

Pilotage.—Pilotage is compulsory for all vessels over 300 grt and is available 24 hours. Vessels should send an arrival notification and a request for pilotage, via the agent, as soon as possible, stating vessel length, draft, quantity of cargo to be handled, and number of stevedore gangs required. Pilots board 0.7 mile ESE of the head of the main breakwater.

Anchorage.—Vessels waiting for a pilot should anchor, in depths of 15 to 17m, sand, between 0.5 and 1 mile S or SE of the main breakwater.

Caution.—An area, within which anchoring is prohibited, lies E of the harbor entrance and may best be seen on the chart.

Less water than charted was reported (1985) to lie near the head of the main breakwater.

Lome to Cotonou

2.4 Between Lome and Kpeme, 15 miles ENE, the coast consists of small, bushy sandhills with a few isolated palm trees. The shore is fronted by a sandy beach.

Kpeme (6°12'N., 1°31'E.) (World Port Index No. 46095) consists of a phosphate-loading facility and an offshore tanker berth.

Depths—Limitations.—A jetty, which is reported to be radar conspicuous, extends 0.6 mile S from the coast and has a depth of 13m alongside the head. Two islets, 76m apart, lie close SSW of the head of the jetty. These islets, along with four dolphins and several mooring buoys, form a loading berth. Vessels of up to 60,000 dwt, 225m in length, and 33m beam can be accommodated. A maximum draft of 9.5m is permitted for berthing while a maximum draft of 11.6m is permitted for departing.

A submarine pipeline extends 0.4 mile E from the head of the jetty to an offshore tanker berth. This berth consists of several mooring buoys and lies in a depth of 9.8m. Tankers of up to 40,000 dwt can be handled. It was reported (1987) that swell in the vicinity of the berth had reduced the maximum permitted draft to 8.2m.

Pilotage.—Pilotage is compulsory. Pilots can be contacted by VHF and board about 1 mile S of the head of the jetty. They remain on board throughout the loading procedure. Vessels should send an ETA 72 and 24 hours in advance.

Anchorage.—Vessels can anchor, in depths of 15 to 20m, mud and sand, with good holding ground, between 1.5 and 2 miles SE of the head of the jetty.

Caution.—Severe coastal erosion occurs in the vicinity of Kpeme and nine groins have been constructed in order to control it.

2.5 Anecho (Aneho) (6°14'N., 1°35'E.) stands 5 miles ENE of Kpeme and is one of the largest towns along this part of the coast. It can easily be identified from offshore by the tower of a prominent yellow church and two large factories which are situated at its E side. The town stands on a strip of beach which is almost entirely free of trees, except at its W part. Vessels can anchor, in a depth of 15m, fine sand, about 1 mile S of the E end of the town. Local knowledge is advised.

A beacon is situated on the coast, 1 mile ENE of the town. It was reported (1995) that a prominent radio mast stands 1 mile NW of this beacon.

The border between Togo and Benin lies about 2 miles E of Anecho, in the vicinity of a narrow lagoon.

Caution.—Due to severe coastal erosion, a breakwater and five groins have been constructed in the vicinity of Anecho.

2.6 Agoue (6°15'N., 1°40'E.), consisting of numerous houses and several factories, is situated 5 miles E of Anecho. A prominent chapel and a large yellow church stand, respectively, near the W and E ends of this village.

Grand-Popo (6°17'N., 1°50'E.) stands 15 miles E of Anecho. The shore between is bushy with a few scattered palm trees. This town may be recognized by several prominent factories and a number of relatively high houses.

Bouche du Roi, lying 3.5 miles E of Grand-Popo, is the outlet of a lagoon which extends behind the coast. The water discharging from this outlet, which is subject to frequent change, discolors the sea for a considerable distance offshore, particularly during the rainy season (May to July).

Ouidah Plage (6°19'N., 2°06'E.), situated 16 miles E of Grand-Popo, is conspicuous from seaward. This village consists of two groups of buildings with white roofs. An isolated house, with a veranda and a prominent red roof, stands in the space between the two groups. From E, the prominent white clock tower of a church standing in the town of Ouidah, 3 miles inland, can be seen above the trees. Anchorage may be obtained, in a depth of 13m, brown sand, about 1 mile S of the highest storehouse in Ouidah Plage.

Avrekete-Plage is situated 7.5 miles E of Ouidah Plage. This village can be identified by a rather large, dark house and a white wall standing at its E end. The coastal bank, with depths of less than 12m, extends up to about 1 mile seaward in the vicinity of this village.

Godomey Plage is situated 14 miles E of Ouidah Plage. Two prominent radio masts and the conspicuous control tower of an airfield stand 4 miles ENE and 3 miles ENE, respectively, of this village.

Cotonou (6°21'N., 2°26'E.)

World Port Index No. 46110

2.7 Cotonou, a sheltered harbor, lies 6 miles E of Godomey Plage and is protected by breakwaters. It is situated close W of the mouth of Lac Nokoue (Lagune de Cotonou), which is usually silted up.

Winds—Weather.—The prevailing winds are from the SW. From mid-November until late February, N winds sometimes carry sand and dust from the deserts and reduce visibility in the vicinity of the harbor to as little as 0.5 mile.

The rainy season lasts from April until July and again from September to November. During December and January, night fog sometimes occurs, but it usually dissipates during the early morning hours.

Tides—Currents.—The tides rise about 1.6m at springs and 1.3m at neaps.

Tidal currents flow ENE across the harbor at rates of up to 4 knots.

Depths—Limitations.—The entrance channel is dredged to a depth of 12m and the harbor basin is dredged to a depth of 11m.

The main quay, 1,320m long, is situated along the N side of the harbor. It provides eight berths and has depths of 10 to 11m alongside. There are facilities for general cargo, ro-ro, container, and bulk vessels. Vessels of up to 210m in length and 10m draft can be accommodated.

A fuel oil berth, 160m long, is situated at the E end of the main quay and can be used by vessels of up to 150m in length and 8m draft.

Two tanker berths, each 200m long, are situated at the inner side of the E breakwater. Tankers of up to 200m in length and 9.8m draft can be accommodated.

Aspect.—The E breakwater extends 0.4 mile SSW from a point on the shore lying 0.7 mile W of the mouth of Lac Nokoue. The W breakwater, 0.4 mile long, extends SE and E from a point lying 0.3 mile WNW of the head of the E breakwater. A short groin extends S from the elbow of this breakwater.

A main light is shown from a framework tower standing on the W side of the mouth of Lac Nokoue (Lagune de Cotonou). A prominent radio mast is situated 0.4 mile NW of the light.

An outer fairway lighted buoy is moored about 1 mile ESE of the head of the W breakwater.

A prominent white house, surmounted by a flagpole, stands 1.7 miles NE of the head of the W breakwater. A church, with a prominent clock tower, is situated 0.9 mile NNE of the head of the W breakwater.

The conspicuous port control tower, surmounted by a radar scanner, stands near the end of the main quay, 0.4 mile NNW of the head of the W breakwater.

A water tower and a conspicuous building, 76m high, stand 0.8 mile NNW and 1 mile NE, respectively, of the head of the W breakwater.

Pilotage.—Pilotage, available at night and by day, is compulsory for all vessels over 100 nrt. Pilots can be contacted by VHF and board within about 1 mile ESE of the harbor entrance. Vessels should send an ETA 24 hours in advance. It is reported (1995) that vessels are advised to send an ETA 72 hours in advance, with a confirmation message 36 hours before arrival, to their agent. Vessels should report to the port authorities by VHF after anchoring in the roadstead.

Anchorage.—Vessels can obtain anchorage, in a depth of 11m, about 0.6 mile SE of the head of the W breakwater.

Caution.—An area, within which anchoring is prohibited, lies in the vicinity of the harbor entrance and may best be seen on the chart.

A dredged area, which may best be seen on the chart, lies close E of the head of the W breakwater and on the S side of the entrance fairway. This area acts as a sand trap and less water than charted was reported (1995) to lie in its vicinity.

An unsurveyed area, which may best be seen on the chart, fronts the coast 1.5 miles E of the mouth of Lac Nokoue.

A prohibited area, which may best be seen on the chart, lies close W of the harbor. It fronts the coast in the vicinity of the palace and extends up to 3.2 miles offshore.

An abandoned pier, 300m long, is situated close E of the root of the E breakwater. Several stranded wrecks lie in the vicinity of this pier and may best be seen on the chart.

Cotonou to Lagos

2.8 Between Cotonou and Lagos, 58 miles E, the coast is bordered by a narrow strip of sand and covered, for the most part, with bushes and a few scattered trees. An extensive series of lagoons lies behind this coast.

The seaward end of the border between Benin and Nigeria lies about 17 miles E of Cotonou.

Sema Oil Terminal (6°18'N., 2°39'E.) lies about 4 miles offshore, 13 miles ESE of Cotonou. The loading facility consists of an SPM, with four mooring buoys, lying in a depth of 18.3m. A submarine pipeline extends NNE from this terminal to the shore. Three production platforms are situated between 4 and 7 miles SSE of the terminal and are connected to the shore by submarine pipelines.

Tankers of up to 200,000 dwt, 270m in length, and 14.7m draft can be accommodated to load partial cargoes. Pilotage is compulsory and available only during daylight hours. Vessels should send an ETA 7 days in advance with confirmation messages 72, 48, and 24 hours before arrival. Pilots, who act as mooring masters, can be contacted by VHF and board about 8 miles WSW of the SPM. Temporary anchorage can be obtained within a designated area lying about 5 miles WSW of the SPM. This area has a depth of 24m and good holding ground composed of sand, mud, and shells.

Caution.—A restricted area, which may best be seen on the chart, surrounds the oil loading facility and extends up to about 11 miles from the coast. All vessels are prohibited from entering this area without prior permission.

2.9 Badagri (6°25'N., 2°53'E.) stands 1.5 miles inland on the N side of a creek, 27 miles E of Cotonou. This town is mostly hidden by bushes and palms, but a few white huts may be seen. Vessels can anchor, in a depth of 14m, mud and shells, about 1 mile offshore, S of the town.

Iworo (6°25'N., 3°01'E.), a village, is situated 8 miles E of Badagri. The coast between consists of several salt pans and a few villages. This village may be identified by a grove fronting two umbrella-shaped palm trees and a conspicuous red house.

The W part of the coast extending between Iworo and Lagos is very flat and bare, with few trees or villages. The E part has a densely-wooded background. A beacon, 14m high, stands on the coast 14 miles E of Iworo. A large wedge-shaped clump of trees is located 2 miles W of the beacon; it stands close inland and is very conspicuous from seaward.

Caution.—Between Badagri and Lagos, the current has been observed to set toward the shore.

Lagos (6°24'N., 3°24'E.)

[World Port Index No. 46130](#)

2.10 Lagos is the largest and main port of Nigeria. The harbor consists of a passage, about 6 miles long, which connects Lagos Lagoon with the sea. This passage leads between Lagos Island and Victoria Island, on the E side, and the mainland, on the W side.

The harbor includes two extensive port installations. The Apapa Quay complex is situated on the W side of the main channel; the Tin Kan Island complex is situated on the NW

side of Badagri Creek, which is entered on the W side of the harbor, about 2.5 miles above the entrance.

Winds—Weather.—The winds are generally SW from mid-morning to evening, being light in January and stronger during July and August. During the night and in the early morning, the winds are usually light and from the N. Periods of early morning fog and haze sometimes occur, especially in January and February.

Tides—Currents.—The tides at the bar rise about 0.9m at springs and 0.7m at neaps.

On the bar, the direction and strength of the tidal currents vary, but generally, the ebb current sets diagonally across the bar. The flood current usually sets NE until within the entrance, when it sets N and up the harbor. The flood current runs during the dry season for about 5 hours while the ebb current runs for about 7 hours. In the rainy season, the flood current is sometimes imperceptible as it is almost equaled by the outflow of the river.

In the lower part of the harbor, the ebb current frequently attains a rate of 4 knots, with the flood current attaining a rate of 3 knots. In the upper part of the harbor, the ebb current attains a rate of 3 knots, with the flood current attaining a rate of 2 knots.

During the rainy season, the ebb current has been observed to attain a rate of 5 knots and the river level has been observed to rise by as much as 0.9m.

At about half ebb, a volume of deep-brown surface scum usually pours out of the harbor from the lagoon and extends up to about 3 miles offshore. During the rainy season (June to September), this scum discolors the water up to about 8 miles seaward of the harbor. However, very little discoloration occurs during the dry season.

It was reported (1988) that an almost constant ebb current sets along the Apapa Quay. This current was observed at times to attain a rate of as much as 6 knots.

Depths—Limitations.—The bar, which lies across the entrance of the harbor between the moles, was reported (1995) to have a dredged depth of 9.1m at LW.

The main port at Apapa has 2,459m of main general cargo quayage which provides twenty berths. These berths are 61 to 250m long and have depths of 5.8 to 11m alongside. A new container quay, 1,600m long, provides nine berths, with depths of 8 to 10.5m alongside.

Ijora Wharf, a bulk berth, is 122m long and has a depth of 5.8m alongside. There are also six tanker berths, with depths of 7.5 to 11m alongside. In addition, the port provides several mooring buoy berths, with depths up to 8m. There are facilities for general cargo, passenger, ro-ro, container, tanker, and bulk vessels. Vessels of up to 30,000 dwt, 259m in length, and 10.1m draft have been accommodated.

The complex at Tin Kan Island has 2,300m of main quayage, which provides fourteen berths. These berths are 120 to 200m long and have depths of 9 to 10m alongside. There are facilities for general cargo, ro-ro, container, and bulk vessels.

Aspect.—The coastline in the vicinity of the harbor is low. The entrance lies between the E mole, which extends 1.3 miles SSW from the SW extremity of Victoria Island, and the W mole, which extends 0.4 mile SE from the mainland shore.

A main light (Lagos) is shown from a tower standing 0.9 mile NW of the root of the W mole. A racon is situated at this

light. It was reported (1988) that the light tower is obscured by trees.

An outer fairway lighted buoy is moored about 3 miles SSE of the harbor entrance. The entrance fairway is indicated by a lighted range, which may best be seen on the chart, and marked by buoys. An SPM lies 1.5 mile S of the fairway buoy.

A conspicuous television mast stands 0.3 mile N of the root of the E mole, with a prominent hotel situated 0.4 mile N of it.

Pilotage.—Pilotage is compulsory for vessels over 1,016 grt and is only available during daylight hours. Pilots can be contacted by VHF and generally board about 2.5 miles S of the head of the W mole.

Vessels should send an ETA via their agent 7, 4, 2, and 1 day prior to arrival. Vessels should then establish contact with the port authorities when within VHF range. When anchoring, vessels should report their SEN number and date of issue, name of agent, and cargo details to the port authorities.

Regulations.—Two months prior to arrival in Nigerian waters, agents must register vessels with the Nigerian Ports Authority (NPA) in order to obtain a Ship Entry Notice (SEN). This does not apply to vessels carrying petroleum products in bulk or in ballast. Vessels cannot enter the territorial waters of Nigeria without a SEN.

Before entering any of the creeks, rivers, or channels in Nigerian waters, vessels are required to broadcast their intentions and keep a continuous watch on 500 kHz or 2182 kHz as necessary. Vessels should broadcast their positions frequently to facilitate safe navigation, but such messages must be discontinued on request by any naval, military, or port authority or any Nigerian radio station or authorized officer.

All VHF communication is subject to the following regulations:

1. VHF channel 16 is to be used as a calling and listening frequency by vessels, the harbormaster, the pilot station, and the signal station.
2. VHF channels 14, 13, 12, 11, and 9 are reserved for the sole use of the Nigerian Ports Authority (NPA). Agents and vessels are not to use these channels unless required to do so by the NPA.
3. VHF channels 22, 23, 24, and 25 are reserved as working channels for vessel to vessel and agent to vessel communications.
4. VHF channel 21 is reserved as a calling and listening frequency for communication between agents and their land mobile station.
5. VHF channels 17, 18, 19, and 20 are reserved as working channels for communications between shore stations other than the NPA.

The manner of operation under these restrictions will be:

1. All vessels will keep simultaneous listening watches on VHF channels 16 and 21. They will use VHF channel 16 when calling the harbormaster, pilot station, signal, or other vessels. Vessels will use VHF channel 21 when calling their agents.
2. All non-NPA fixed stations will keep watch on VHF channels 16 and 21. They will use channel 16 when calling the pilot station, harbormaster, and signal station. For calling their respective vessels, they will use VHF channel 21. After establishing contact, they will switch over to a mutually acceptable channel from amongst those assigned above as

applicable. Agents will only use VHF to contact the NPA station as a last resort and only when the more conventional methods such as telephones and messengers fail.

3. The NPA stations will use VHF channel 16 for contacting vessels, tugs, and operational centers. They will use VHF channel 11 for other NPA internal communications. After establishing contact, these stations will select a working channel other than VHF channel 16, 14, or 11. The fire service will continue to use VHF channel 14 while maintaining a listening watch on VHF channel 16.

Traffic restrictions are, as follows:

1. Vessels are prohibited from passing each other in the main channel, between Lighted Bouy No. 7, moored 0.5 mile SE of the head of the W mole, and the head of the training mole, situated 0.8 mile NNW.

2. When two vessels are approaching each other in Apapa Channel, off the Apapa Quay complex, from opposite directions, the vessel stemming the tide shall wait at a safe position until the other vessel has passed, even though the former vessel had been accorded the right of way by the port signal station.

3. Vessels must reduce speed in the vicinity of the floating dock, close N of the Apapa Quay complex.

Anchorage.—Vessels remaining outside of the harbor should anchor, in a depth of 18m, good holding ground, about 2.5 miles S of the main light, but clear of the wrecks. A heavy swell occurs at this roadstead, particularly in July, August, and September. Vessels may also obtain anchorage, in a depth of 13m, about 1.5 miles S of the main light.

It was reported (1981-2000) that vessels were anchoring or drifting up to 20 miles offshore in order to prevent being boarded by pirates.

Caution.—Buoys, which mark the harbor channels, may be frequently shifted to conform with changes in the depths. It was reported (1990) that several buoys were unreliable or missing.

It was reported (1990) that depths in the entrance fairway and within the harbor may be found to be as much as 2m less than charted.

Less water than charted was reported (1993) to lie in the vicinity of the head of the E mole.

Several wrecks, some dangerous, lie in the approaches to the port and may best be seen on the chart.

Vessels are cautioned that security off the West African coast and within some ports is a serious problem. In recent years (1986-2000) several attacks by pirates and thieves have been reported. These have generally taken place at the outer anchorages, but some have occurred while berthed alongside.

An area, within which anchoring is prohibited, lies in the vicinity of the harbor entrance. It extends up to about 3 miles seaward and may best be seen on the chart.

Due to the existence of submarine cables, an area, within which anchoring is prohibited, fronts the coast at the E side of the harbor entrance. It extends up to 15 miles seaward and may best be seen on the chart.

Lagos to the Niger Delta

2.11 Kuramo Island (6°27'N., 3°43'E.) forms the coast for 40 miles E of Lagos. The shore is fronted by a steep, sandy

beach with heavy surf breaking on it. A prominent beacon stands on the coast, 10.5 miles E of Lagos.

Mosherelkawga (6°25'N., 3°41'E.), a village, stands 17 miles E of Lagos. A dangerous wreck, marked by a lighted buoy, lies about 2.7 miles SW of this village.

Orimedu (6°25'N., 3°56'E.), a prominent village, stands on the coast 16 miles E of Mosherelkawga.

The coast extending E of Orimedu continues as a sandy beach for 36 miles. For the first 21 miles, the undulating and dark bushy foreground stands out sharply against the lighter-colored background of the trees. The remaining part of this stretch of coast is very flat, though bushy, with no groves in the background.

The regularity of the coastal depths is interrupted 7 miles S of Orimedu by Avon Canyon (Avon's Deep), a submarine canyon, where the depths increase suddenly from 40m to over 180m.

Lekki (6°24'N., 4°07'E.), a village with a town situated close N of it, stands 11 miles E of Orimedu and 1 mile inland. It is situated W of three remarkable vistas. These vistas or lagoon entrances lie close to, 6 miles E, and 19 miles E of Lekki. They are 0.2 mile wide and appear open only when abreast of them.

Ajumo (6°21'N., 4°26'E.), a village, stands 19 miles E of Lekki and near the E of the three vistas. Overfalls occur about 9 miles S of this village.

2.12 A village, with two conspicuous palm trees, stands on the coast 5 miles E of Ajumo. An abrupt and remarkable change from sand to mud occurs in the nature of the coast close E of this village. The dry soil, palm trees, and brushwood are succeeded by swamps and mangroves. The coast also changes its direction to SE and depths of less than 11m are found to lie up to 6 miles offshore.

The termination of the sandy beach is a striking feature in the Bight of Benin. Vessels approaching from the W may navigate along the coast about 1 mile offshore, except in the vicinity of Lagos. However, after passing Ajumo, numerous muddy shoals, with depths of 5 to 7m, are then found within 3 miles of the shore.

The coast for about 6 miles SE of the termination of the sand is formed by a mud flat. The absence of any background trees makes those trees scattered along the shore conspicuous and the surf, which breaks about 2 miles offshore, is no longer heard. At the SE end of this mud flat, the coast assumes a somewhat firmer character and is interspersed with clumps of trees and scattered huts for about 15 miles. From this position to the entrance of the Benin River, 26 miles SE, the only distinguishable landmarks are two trees, which stand about 11 miles NW of the river entrance, and a few scattered groups of huts.

The Niger Delta

2.13 The **Niger Delta** (5°30'N., 5°10'E.) is said to begin at **Aboh** (5°32'N., 6°31'E.), a major trading station, which stands at the head, 130 miles from Forcados. It consists of numerous rivers, the best known being the Benin, Escravos, Forcados, Nun, Brass, New Calabar, and Bonny. All of these rivers unite with the many streams of the River Niger at or below **Ndoni** (5°33'N., 6°33'E.).

It is possible to ascend the River Niger from any of the mouths of the numerous rivers by utilizing the many tortuous creeks which connect the rivers and form inland waterways. These creeks are navigable throughout by boats and, in most cases, small vessels with light drafts can transit between 15 and 40 miles inland. However, the creeks and rivers of the delta should only be used by vessels with local knowledge.

When approaching any of the delta entrances, vessels generally first ascertain their proximity to land by the depths and the discolored appearance of the sea. The low shoreline is only indicated by isolated trees. These trees may appear as disconnected wooded islets because of the mirage distortion. On closer approach, the edge of the coastal forest appears as a solid line, broken only by the river entrance. Once over the bar and within the estuary, the river banks are fringed with mangroves fronting masses of inland forest.

Tides—Currents.—The current between the mouths of the Forcados River and the Nun River generally sets SE, except during the harmattan season (November to February), when it sets NW. Within depths of 16 to 18m, the current is irregular, with many eddies. Outside of these depths, the current sets at a rate of about 0.5 knot.

For the purpose of buoyage within the creeks and rivers leading to Koko, Sapele, Burutu, and Warri, the direction of the main flood current is considered as flowing from the Escravos bar toward the ports.

Directions.—Vessels should choose the river entrance where the bar offers the most favorable conditions for crossing. Once inside, the deepest route through the creeks can be chosen for proceeding to the other parts of the delta. In this way, the dangerous and shallow bars are avoided. The entrance to the Benin River is difficult to distinguish from seaward. Vessels usually do not enter this river through its mouth, but proceed via the Escravos River and Nana Creek.

Caution.—Vessels are warned that numerous wellheads, submarine pipelines, flares, oil fields, oil rigs, and production platforms, some disused and abandoned, exist within the 200m curve off the approaches to the rivers. The wellheads may protrude over 5m above the seabed and may be unmarked.

Vessels are warned that a ground swell of varying amplitude usually prevails on all of the bars fronting the river entrances. Adequate underkeel clearances must be ensured.

2.14 The **Benin River** (5°46'N., 5°03'E.), though joined to the Niger Delta by Nana Creek and Chanomi Creek, has an origin entirely distinct from that of the River Niger. Its sources lie at the head of two small rivers which unite at Sapele, 40 miles ENE of North Point. Between the bar and Koko, a port lying 33 miles NE, the river is intersected by several creeks. Nana Creek enters the river through the SE bank and connects it with the Escravos River.

North Point (5°46'N., 5°01'E.), the N entrance point of the Benin River, is well-defined; breakers and heavy rollers extend up to 2.5 miles SW of it. The shore extending from this point on the S side of the river entrance forms only a gentle curve and is difficult to identify from the SW. Overfalls are reported to occur about 10 miles W of the point.

Discolored water may be observed as far as 9 miles seaward of the river mouth. The bar, composed of hard sand, is liable to change. It was reported (1981) to have depths of 2.4 to 2.7m. This

entire bar frequently breaks heavily and sometimes with overwhelming force. Passage across the bar is not recommended.

The current off the mouth of the Benin River usually sets SE, but after the harmattan has been blowing, it is often reversed and sometimes sets with considerable strength. The tidal currents over the bar usually set ENE on the flood and SW on the ebb. In December, the flood current runs for 3 hours and attains a rate of 3 knots. The ebb current runs for over 9 hours and attains a rate of 5 knots.

Benin Road, lying 3 miles outside the bar and 5.5 miles from the river mouth, is the only anchorage available in this vicinity. The holding ground is good, but much rolling and pitching must be expected. Vessels may anchor, in a depth of 9m, black mud, about 5.5 miles SW of North Point.

2.15 Ukpokiti Marine Terminal (5°43'N., 4°50'E.) is a Floating Production Storage and Offloading (FPSO) facility located about 13 miles WSW of the mouth of the Benin River. The following information should be sent, via the agent, 7 days prior to arrival:

1. Vessel's name.
2. Vessel's ETA.
3. Master's name.
4. Arrival draft and dwt.
5. Deballasting time, if any.
6. Cargo requirements.

The ETA should be updated 72, 48, and 24 hours prior to arrival. Pilotage is compulsory; the mooring master boards about 3.5 miles SW of the terminal.

2.16 Escravos Oil Terminal (5°30'N., 5°00'E.) ([World Port Index No. 46135](#)) lies 11 miles WSW of the mouth of the Escravos River. It consists of an operations platform, 26m high, and two SBMs. No. 2 SBM is moored, in a depth of 19.8m, 1 mile W of the platform and can handle tankers of up to 120,000 dwt. No. 3 SBM is moored, in a depth of 30.5m, 5 miles WSW of the platform and can handle tankers of up to 350,000 dwt.

Vessels should anchor in a designated area lying about 3 miles WNW of the operations platform. Pilotage is compulsory and is available during daylight hours only. Pilots, who act as mooring masters, can be contacted by VHF and board in the vicinity of the anchorage area. They remain on board throughout the loading procedure. Vessels must have their engines ready for immediate use while moored at the terminal. All tankers must send an ETA 72 and 12 hours in advance. They should then contact the terminal when within VHF range.

Vessels should also advise their agent and the terminal 7 days in advance of the following information:

1. Vessel's name.
2. Vessel's ETA.
3. Master's name.
4. Estimated arrival draft and dwt.
5. Deballasting time, if any.
6. Any anticipated delays if calling at any port prior to Escravos.

Vessels should send an updated ETA 72, 48, and 24 hours prior to arrival.

The current at the terminal usually sets NNW, but it sometimes reverses to set SSE. Its strength varies between 0.5 knot

and 1.5 knots. This current has been observed to reverse direction very quickly and cause vessels to swing heavily.

Unfavorable weather is usually expected from May through November.

Caution.—A restricted area, which may best be seen on the chart, surrounds the terminal. Vessels not proceeding to or from the terminal are prohibited from entering this area without prior permission.

It was reported (1970) that the approach to the terminal is somewhat difficult due to the existence of numerous gas flares. However, the coast and breakwater lying to the S of the river entrance are radar conspicuous.

2.17 The Escravos River (5°34'N., 5°10'E.) is the principal entrance of the delta for the ports of Koko, Sapele, Burutu, and Warri. Nana Creek, entered 7 miles within the mouth, leads into the Benin River and then to the ports of Koko and Sapele. Chanomi Creek, entered 12 miles within the mouth, leads S to the Forcados River and then to the ports of Burutu and Warri.

The entrance is liable to silt. The channel leading across the bar was reported (1986) to have a dredged depth of 6.4m. It was reported (1993) that vessels with drafts up to 6.4m could enter the river.

A main breakwater, about 4 miles long, extends WSW from a point on the coast located 1 mile S of the S entrance point. A light is shown from the head of this breakwater. A detached breakwater, about 0.5 mile long, extends NNE from the vicinity of the head of the main breakwater. A beacon, 9m high, is situated close SE of the S entrance point. A village and a water tower stand close N and close SSE, respectively, of the beacon. Another beacon, 9m high, is situated on the N entrance point and a radio mast, 91m high, stands 1.2 miles NE of it.

A main light is shown from a metal framework tower standing 2 miles NE of the root of the breakwater. An outer fairway lighted buoy is moored about 7.2 miles WSW of the head of the main breakwater.

Nana Creek is entered 7 miles E of the mouth of the river. It leads in a N direction for 23 miles, but has many sharp bends.

Pilotage.—Pilotage is compulsory in the river. The pilot boards 2 miles SW of the Escravos breakwater. The Escravos Signal Station requests vessels send, on VHF channel 16, the following information before the pilot boards:

1. Vessel's name.
2. Call sign.
3. SEN number.
4. Crew.
5. Cargo details.

Pilotage is available during daylight hours only.

Caution.—On the flood tide, a strong NW current sets across the bar and in the entrance.

It was reported (1995) that the buoys marking the approach and river channels were unreliable. Several were observed to be unlit and many were missing.

A submarine pipeline crosses Nana Creek, 4 miles NNE of its junction with the Escravos River. The depth may be reduced by as much as 2m in the vicinity of this pipeline.

2.18 Koko (6°00'N., 5°28'E.) ([World Port Index No. 46140](#)) is situated on the N bank of the river. It is a large settlement and extends for about 1 mile along the shore. The

main quay is 137m long and has a depth of 7.3m alongside. Berthing is only carried out during daylight hours. Vessels of up to 140m in length and 6.4m draft have been accommodated alongside.

Caution.—Vessels should keep a good lookout for floating logs in the river, many of which are nearly submerged.

Vessels passing Koko should reduce speed in order to avoid damage to the river banks and to small craft moored at the quay.

2.19 From Koko, the Benin River trends in a general ESE direction, with two sharp bends, for 16 miles to Sapele. Above Koko, the banks of the river revert to mangroves for about 3.8 miles when they again change to open country with trees and palms.

Munro Island (5°55'N., 5°40'E.) divides the river and has several log storage lagoons. The main channel passes SW of this island.

Miller's Point (5°54'N., 5°42'E.) is the NW entrance point of the Ethiopie River. A prominent radio mast is situated close WSW of this point.

2.20 Sapele (5°54'N., 5°41'E.) ([World Port Index No. 46150](#)), a major logging port, stands on the S bank of the Benin River, abreast the SE extremity of Munro Island. A conspicuous church stands in the N part of the town.

Depths—Limitations.—A private timber quay is situated on the W bank of the Ethiopie River, 0.7 mile SE of Miller's Point. It provides 267m of berthage with a depth of 4.9m alongside and 144m of berthage with a depth of 4.6m alongside.

The principal port installations are situated at Ogorode, 5 miles NW of Miller's Point. There is a total of 1,183m of quayage, which provides six main berths, with a depth of 10.5m alongside. There are facilities for general cargo, container, and ro-ro vessels. Vessels of up to 170m in length and 6.4m draft have been accommodated alongside.

In addition, several mooring buoy berths are situated in the river. These berths lie in depths of 4.9 to 7.6m and can accommodate vessels of up to 137m in length.

Anchorage.—Vessels can anchor, in a depth of 7.3m, about 0.3 mile above the E end of Munro Island.

Caution.—A submarine cable, marked by beacons, extends across the river, about 0.2 mile E of the SE end of Munro Island.

It was reported (1984) that the S bank in places between Munro Island and Sapele had extended into the river.

2.21 The Forcados River (5°23'N., 5°16'E.) is entered between Hughes Point and South Point, 7 miles SE. A navigable channel leads into the river between the shoalbanks extending from these points and is only about 1 mile wide.

South Point (5°22'N., 5°19'E.) is steep and wooded. A hulk lies on the beach on the N side of this point.

Hughes Point (5°27'N., 5°14'E.) is ill-defined, sandy, and backed by tall mangroves. Beacons are situated 0.5 mile SE, 2 miles SE, and 0.4 mile SE of this point. Moore Point, located 9 miles ESE of Hughes Point, is a steep and prominent bluff.

A bar fronts the river entrance, 7 miles seaward of the mouth, and lies between two lines of breakers, which are

usually visible, except during the harmattan season. This bar was reported (1986) to have a least depth of 2.7m on it. Immediately within the bar, the water is smooth and the depths increase to over 9m. The channel leading over the bar and into the river is marked by buoys. It can be used by small craft with local knowledge.

Meiji Oil Field (5°25'N., 5°10'E.), consisting of numerous oil structures and platforms, lies centered 10 miles WNW of the entrance to the Forcados River.

Forcados Oil Field (5°23'N., 5°18'E.), consisting of numerous platforms, lies across the fairway within the bar.

Mesan Oil Field (5°21'N., 5°13'E.) lies centered 5.5 miles W of South Point.

Caution.—It was reported (1990) that the buoys marking the entrance channel are not reliable and some may be missing.

Numerous oil structures, flares, installations, and platforms are situated up to 10 miles seaward of the entrance to the Forcados River.

2.22 Forcados Oil Terminal (5°10'N., 5°10'E.) lies 15 miles SW of South Point. It consists of a platform and two SBMs. A submarine pipeline extends NE from the terminal to the shore. Vessels of 40,000 to 320,000 dwt, with drafts up to 19.8m, can be accommodated. There are no restrictions for length or beam. Vessels must have their engines ready for immediate use while at the terminal. Unfavorable weather is expected at the terminal from March to November. Vessels waiting to berth should anchor in designated areas lying about 3 miles W or 2 miles NW of the platform. Pilotage is compulsory. Pilots, who act as mooring masters, can be contacted by VHF and board in the vicinity of the anchorage areas. They remain on board throughout the loading procedure.

Caution.—A restricted area, which may best be seen on the chart, surrounds the terminal. Vessels not proceeding to or from the terminal are prohibited from entering the area without prior permission.

Chanomi Creek (5°35'N., 5°23'E.), which connects the Escravos River to the Forcados River, leads in a S direction for 14 miles and is narrow and winding. The N entrance of this creek lies 12 miles E of the entrance to the Escravos River. The S entrance of the creek lies between Goshawk Point and Warri Point, 2.5 miles WNW. The coastal bank lying off Warri Point is marked by a lighted buoy. The fairway, which is marked by buoys and beacons, has general depths of 5 to 25m; the bar at the N end of the creek was reported (1986) to have a depth of 6.2m on it.

2.23 Port Forcados (5°22'N., 5°26'E.) ([World Port Index No. 46160](#)) lies 7 miles within the S entrance of the Forcados River and S of the S entrance of Chanomi Creek. It also includes the entrance to Muri Creek, lying E of the town of Forcados. The town is situated within Kwarra Point and is protected by a seawall. Vessels can anchor, in depths of 7 to 9m, good holding ground, N and E of Kwarra Point. During the tornado season (March to April and September to October), vessels should not anchor close to the shore.

The government wharf, situated 0.4 mile SE of Kwarra Point, is 58m long and has a depth of 6m lying close off it.

Vessels with drafts up to 5.2m can berth alongside with lighters moored between them and the side of the wharf.

Burutu (5°21'N., 5°30'E.) ([World Port Index No. 46165](#)) lies on the S bank of the Forcados River, 4 miles E of Forcados. It is approached through Burutu Channel which is marked by buoys and has a least depth of 3.9m (1981). There is a main wharf, 229m long, and a new wharf, 91m long. Both have a depth of 6.4m alongside. A fleet of shallow-draft vessels operates from this harbor and carries cargo and passengers throughout the entire area. Vessels can obtain anchorage, in a depth of 7m, good holding ground, in the middle of the river, off the town.

2.24 Warri (5°31'N., 5°44'E.) ([World Port Index No. 46170](#)) lies on the N bank of the Warri River, 21 miles above its junction, at Warri Point, with the Forcados River. This junction is located close above the entrance to Chanomi Creek.

Winds—Weather.—The prevailing winds are usually from the SSW, but they are variable during the harmattan season. Tornados are sometimes experienced at the beginning and end of the rainy periods (March to April and September to October).

Depths—Limitations.—The river channel is narrow and marked by buoys.

Four oil jetties front the refinery. They provide 121m of berthage, with a depth of 7m alongside.

A bulk quay fronts the steelworks, situated about 4 miles above Warri, and has a depth of 7m alongside.

The old section of the port has 1,500m of main quayside. It provides four berths for ocean-going vessels, with depths of 6.5m alongside.

The new section of the port has 1,600m of main quayside. It provides six berths for ocean-going vessels, with depths of 11m alongside. In addition, there are several mooring buoy berths situated in the river.

The port has facilities for general cargo, container, tanker, bulk, and ro-ro vessels. Vessels of up to 250m in length and 6.4m draft have been accommodated.

Caution.—Vessels are restricted by the depth on the bar at the entrance to the Escravos River. The Nigerian Ports Authority (NPA) at Lagos should be contacted in advance for the latest information.

2.25 The coast extending S from the entrance to the Forcados River to the entrance of the Nun River, 80 miles SSE, has the same monotonous features as that to the N. Dense forest and thick jungle rise from a narrow, sandy beach which extends along the whole stretch of this coast. The surf breaks heavily in the rainy season on this beach and a heavy swell in this area generally causes a set toward the shore.

The shoreline is intersected by the mouths of several rivers. The entrances to these rivers are fronted by sandy bars which usually break completely across. All of the rivers are connected by creeks and communication by launches is maintained between places along the Forcados River and places along the Nun River throughout the entire year.

The **Ramos River** (5°08'N., 5°22'E.) flows into the sea 15 miles S of the entrance to the Forcados River. Its mouth, which is fronted by a bar, is about 0.5 mile wide and lies between two

well-defined entrance points. Breakers extend up to about 3 miles seaward of the entrance and discolored water has been observed up to 7 miles seaward. Anchorage may be taken, in a depth of 9m, black mud, outside the bar and about 5 miles W of the mouth.

The **Dodo River** (4°53'N., 5°29'E.) enters the sea 15 miles S of the mouth of the Ramos River. It was reported (1988) that the land located on the S side of this river entrance had extended up to about 2 miles NNW.

Caution.—A disused oil field lies centered 8 miles SW of the entrance to the Dodo River. It was reported (1988) that several unlit derelict rigs and obstructions are situated within this former field and close adjacent to it.

It was reported (1988) that a riser pipe, 10m above sea level, is situated 6 miles WSW of the entrance to the Dodo River.

The **Pennington River** (4°44'N., 5°32'E.) flows into the sea 9 miles SE of the entrance to the Dodo River.

Pennington Oil Field (4°37'N., 5°25'E.) lies 7 miles SW of the entrance to the Pennington River. A gathering platform stands near the center of this field and a flare structure is situated close NE of it. A storage hulk is moored about 1 mile SW of the platform and several mooring buoys are situated 1 mile SW of it.

It was reported (1988) that a dangerous wreck lies about 1 mile E of the platform.

Caution.—A submarine pipeline connects the gathering platform, the storage hulk, and the mooring buoy berth. In addition, a submarine pipeline extends 10 miles SSE from this oil field to Middleton Oil Field.

2.26 The Middleton River (4°32'N., 5°41'E.) flows into the sea 14 miles SE of the Pennington River. It appears from offshore to be a wide estuary with an island lying in the entrance. In reality, the island is actually a group of tall trees standing on Hopkin Point, which divides the mouth into two branches.

Factory Point, the N entrance point of the river, is well-defined. Several very high trees stand on the S entrance point. Miller Island, lying close S of Hopkin Point, is covered with grass and low scrub. It is reported not to be visible until close inshore.

An outer lighted buoy is moored about 10.7 miles W of Hopkin Point. The bar, which lies about 1.3 miles W of Factory Point, has a least depth of 2.1m; however, the river entrance is obstructed by drying sandbanks which lie between the bar and Miller Island.

2.27 Middleton Oil Field (4°30'N., 5°33'E.) lies centered 9 miles WSW of Factory Point. It consists of a production platform and several oil rigs. Submarine pipelines connect this field to Pennington Oil Field, 10 miles NNW, and the tanker terminal, 15 miles S.

The **Fishtown River** (4°24'N., 5°50'E.) flows into the sea 12 miles SE of the Middleton River. Its entrance is 0.2 mile wide and lies between two well-defined points. Between these two river entrances, the forest is somewhat removed from the coast and a belt of partially-cultivated land, with clumps of palms, intervenes.

2.28 North Apoi Oil Field (4°21'N., 5°47'E.) lies centered 3.5 miles SW of the mouth of the Fishtown River. It consists of a central gathering platform surrounded by several lighted wellheads. A submarine pipeline connects this field with the offshore terminal, 13 miles SW.

Pennington Offshore Terminal (4°15'N., 5°37'E.) ([World Port Index No. 46200](#)) lies 16 miles SW of the entrance to the Fishtown River. It consists of a central platform, a floating storage vessel, moored to an SPM, and an SPM loading berth moored in a depth of 26.8m. Vessels of up to 250,000 dwt can be handled.

Winds—Weather.—The wind and swell at the terminal are mostly from a SW direction. The weather is generally good from November to May, but it may be unfavorable during the wet season (May to November). The currents are reported to be irregular and strong at times.

Pilotage.—Pilotage is compulsory. Pilots, who act as mooring masters, can be contacted by VHF and board about 2 miles SW of the SPM berth. They remain on board during the entire loading operation. Vessels should send an ETA 96 and 24 hours prior to arrival via the oil company office in Lagos. Vessels should then contact the terminal when within VHF range.

2.29 The Nun River (Branch River) (4°16'N., 6°04'E.) flows into the sea 16 miles SE of the Fishtown River. It is entered between Cape Nun and Palm Point, 1.4 miles SE. This river was formerly used as the principal entrance into the Niger River. However, because of shoaling on the bar and continual changes in the channel above Akassa, 2 miles within the entrance, navigation is only possible by vessels with light drafts, even when the river level is high.

The river mouth is imposing when first entered, but, after reaching Akassa, the channel is almost entirely obstructed by numerous flats and drying sandbanks. It is not until 25 miles N of Akassa that the river regains a width and depths commensurate with its importance.

The shores on either side of the river entrance are heavily wooded and form areas of vast swamp as they are at a level close to that of the river.

2.30 Cape Nun (4°17'N., 6°04'E.), the N entrance point, is somewhat low, with trees standing close behind it. Between

this cape and Barracoon Point, 2 miles N, the W bank of the river is sandy, with trees extending almost to the edge of the water. A beacon, 9m high, is situated on Barracoon Point.

Palm Point (4°16'N., 6°05'E.), the S entrance point, is low, sandy, and covered with grass. Several trees stand about 0.3 mile N of the point. A square clump of trees, situated 0.5 mile inland and 2.5 miles E of the point, is somewhat conspicuous above the unbroken line of tree tops. A light is shown from a metal pile structure standing on the point and a beacon is situated 2 miles E of it.

The bar fronting this river is considered to be one of the worst within the Niger Delta. The coast changes direction sharply in this vicinity and renders it fully exposed to the W and S. There is always a heavy swell on the bar and calm days are very few. The bar lies between the S extremities of two spits which extend up to about 4 miles S from each entrance point. The sea breaks heavily along the W spit and there are heavy rollers and surf along the E spit. The bar is composed of hard sand, with mud immediately outside of it, and has a least depth of 1.8m (1963). During the rainy season, the bar frequently breaks all over, but it only breaks after half ebb in the dry season. Local knowledge is essential for crossing the bar. Discolored water has been observed up to 4 miles seaward of the bar. Anchorage may be obtained, free from rolling, in a depth of 11m, about 5 miles S of Palm Point. In this vicinity, the current from the river keeps the bow of the vessel heading N.

Caution.—During the harmattan season (November to February) or during heavy rains, the river entrance may be often obscured for several days.

2.31 Akassa (4°19'N., 6°04'E.) ([World Port Index No. 46180](#)), a small town, lies on the W bank of the Nun River, 2 miles N of Cape Nun. A small wharf, with an alongside depth of 1.2m, fronts the town. Vessels may anchor in a depth of 14m, mud, in the middle of the channel, off Barracoon Point. Local pilots for the inland creeks are available here.

Cape Formoso (4°16'N., 6°05'E.) is the low and wooded tract which forms the S extension of the Niger Delta. This cape, located on the E side of the Nun River, also forms the E extremity of the Bight of Benin and is fully described in [paragraph 3.2](#).